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Re:	US Serial No. 10/695,806		

Message: "Remarks" from

Please find attached the Amendment that was previously faxed to you on June 1, 2005.

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Application No.: 10/695,806

REMARKS

Claims 1-28 were presented for examination. Claims 1, 3-6, 8-18 and 20-25 were rejected. Claims 2, 7, 19 and 26 were objected to. Claim 1 has been amended. Claim 8 has been canceled without prejudice or disclaimer. Support for all amendments is found in the specification as originally filed. Reconsideration of this application and allowance of all pending claims are hereby respectfully requested in view of the following amendments and remarks.

Objection to the Drawings

The drawings were objected to for allegedly failing to show the all the claimed features. Specifically, the Office Action objected that the claimed "displacement measurement device" is not shown in the drawings. A new drawing sheet including FIG. 1B is being submitted together with this Amendment to address the Examiner's objection. FIG. 1B illustrates a displacement measurement device 140 coupled to the signal analyzer 150. Applicants' respectfully submit that FIG. 1B includes no new matter because the illustrated embodiment is a more generic representation of the embodiment shown in FIG. 1A. Further, FIG. 1B is congruent with the claim language and supported by the specification as originally filed. Accordingly, Applicants respectfully request entry of FIG. 1B, reconsideration and withdrawal of this objection.

Objection to the Claims

Claim 1 was objected to under 35 U.S.C. § 112 for failing to show a nexus between the preamble and the body of the claim. The Office Action contends that there is no relationship between the "engine cylinder contribution" recited in the preamble and the "engine block

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movement” recited in the body of the claim. Claim 1 has been amended to address the Examiner’s concerns and to overcome the objection. Accordingly, Applicants respectfully request reconsideration and withdrawal of this objection.

Rejection under 35 U.S.C. § 103

Claims 1, 3-6, 8-18 and 20-25 have been rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent Application Publication No. 2004/0236494 (DeBotton et al.) in view of U.S. Patent No. 6,510,732 B1 (Liang et al.). The Office Action alleges that DeBotton et al. disclose each element of the claims, except for the feature of detecting engine cylinder block movement “relative to a stationary structure” or “relative to a fixed position.” The Office Action relies upon Liang et al. to overcome the deficiencies of DeBotton et al. For at least the reasons stated below, the proposed combination of DeBotton et al. and Liang et al., even if proper, does not disclose or suggest all of the required claim elements.

The present invention as recited in amended claim 1, for example, relates to a system for evaluating engine cylinder contribution. The system includes a displacement measurement device configured to detect engine block movement relative to a stationary structure and a signal analyzer coupled to the displacement measurement device and configured to evaluate the engine block movement for determining engine cylinder contribution. One advantage of the present invention is that engine block movements are detected relative to a stationary structure to effectively determine engine cylinder contribution.

Even if the references were combined as suggested by the Office Action, the combination does not teach or suggest each of the claim elements. In particular, neither DeBotton et al. nor Liang et al. teaches or suggests a detecting of engine block movement “relative to a stationary structure.”

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structure” or “relative to a fixed position” as recited in independent claims 1, 17 and 27. In particular, Liang et al. describe that a sensor 40 is mounted under a test bed 56, which is supported by rubber isolators 56 (*see* Liang et al. at FIG. 2 and col. 3, lines 24-32). Liang et al. do not measure movement “relative to a stationary structure” (or “relative to a fixed position”) as required by the claims because the sensor 40 is either attached directly to the engine or attached to the test bed 56 on which the engine is mounted. The test bed structure is isolated from the fixed position of the test stand 55. Also, similar to Liang et al., in DeBotton et al. the sensor 40 is attached directly to the engine for detecting a vibration waveform (*see* DeBotton et al. at paragraph 116). DeBotton et al. do not describe or suggest detecting displacements relative to a stationary structure.

Therefore, regardless of whether one skilled in the art would have been motivated to combine these references, the proposed combination does not teach or suggest each of the required claim elements. Neither DeBotton et al. nor Liang et al. (considered alone or in combination) teaches or suggests all the required elements of independent claims 1, 17 and 27 as well as of claims 3-6, 9-16, 18 and 20-25 which depend therefrom. Reconsideration and withdrawal of the rejection are therefore respectfully requested.

Allowable Subject Matter

Applicants acknowledge with appreciation that Examiner’s indication that claims 2, 7, 19 and 26 include allowable subject matter. These claims, however, were objected to as dependent on rejected base claims. The base claims should now be considered allowable for the reasons described above. Reconsideration and withdrawal of the objection are therefore respectfully requested.

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Conclusion

Accordingly, it is believed that all pending claims are now in condition for allowance. Applicants therefore respectfully request an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicants' representative at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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